

Square Roots

1. The area of a square is 196 in^2 . What is the length of one side of the square? Write and solve an equation, and then check your solution.

Let x in. represent the length of one side of the square.

$$\begin{aligned}x^2 &= 196 \\ \sqrt{x^2} &= \sqrt{196} \\ x &= \sqrt{196} \\ x &= 14\end{aligned}$$

Check:

$$\begin{aligned}14^2 &= 196 \\ 196 &= 196\end{aligned}$$

The length of one side of the square is 14 in.

2. What positive value of x would make the following equation true: $19 + x^2 = 68$?

$$\begin{aligned}19 + x^2 &= 68 \\ 19 - 19 + x^2 &= 68 - 19 \\ x^2 &= 49 \\ x &= 7\end{aligned}$$

The positive value for x that makes the equation true is 7.

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